
Rabies in Montana, 1997

In early 1997, a 66 year-old Native American male from Blaine County died as a result of rabies infection. Confirmatory testing of autopsy specimens performed by the Centers for Disease Control and Prevention identified a bat-related strain of the rabies virus. Similar to Montana's first human rabies death in late 1996, investigation by local health authorities found no reported risk exposure to bats or other animals of concern. However, investigation by county and tribal health authorities did indicate the presence of a bat in the victim's home during the fall of 1996, and an inapparent exposure (ie. bite or scratch while sleeping, etc.) is suspected.

During 1997, 1167 specimens were submitted to the Department of Livestock's Veterinary Diagnostic Laboratory in Bozeman for rabies testing. Of the 1167 specimens submitted for testing, 626 (53.6%) were domestic animals such as dogs, cats, and ranch animals. The remaining 542 (46.4%) specimens were predominantly wild animals, primarily bats, skunks and rodents.

Table 1. Test Results for Rabies in Montana Animals, by Species - Montana 1997			
Species	No. Positive	No. Tested	Perc. Positive
Bat	27	340	7.9
Bison	0	2	0.0
Bobcat	0	1	0.0
Cat	1	269	0.4
Cattle	1	46	2.2
Chipmunk	0	1	0.0
Coyote	0	8	0.0
Deer	0	1	0.0
Dog	1	270	0.4
Ferret	0	5	0.0
Fisher	0	1	0.0
Fox	0	10	0.0

Gerbil	0	1	0.0
Goat	0	2	0.0
Hamster	0	3	0.0
Horse	0	14	0.0
Llama	0	2	0.0
Mink	0	1	0.0
Mole	0	1	0.0
Monkey	0	1	0.0
Mouse	0	9	0.0
Muskrat	0	13	0.0
Packrat	0	3	0.0
Porcupine	0	1	0.0
Rabbit	0	3	0.0
Raccoon	0	34	0.0
Rat	0	3	0.0
Rockchuck	0	1	0.0
Sheep	1	8	12.5
Skunk	21	69	30.4
Squirrel	0	7	0.0
Vole	0	2	0.0
Weasel	0	3	0.0
Wolf-hybrid	0	4	0.0
Woodchuck	0	1	0.0

TOTALS:	52	1140	4.6
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As indicated in Table 1, 52 (4.6%) of the 1140 specimens suitable for testing were positive for rabies. Forty-eight of the 52 positive tests (92.3%) were found in either skunks or bats. The four remaining positive specimens were in domestic animals, specifically; one cat, one dog, one sheep and one cow.

Specimens testing positive for rabies were submitted from 19 counties during the period (Table 2). While the distribution of rabies-positive animals by county and species helps determine trends in occurrence, the information alone should not be used to determine the need for post-exposure rabies prophylaxis. Animals submitted for testing do not represent a random sample, as a result, the data collected cannot be generalized to all counties or all members of single species.

Table 2. Montana Counties Submitting Positive Rabies Specimens, by Species, Montana 1997

County	Bat	Cat	Cattle	Dog	Sheep	Skunk	Total
Big Horn				1		2	3
Carter			1			4	5
Cascade	2						2
Fallon						6	6
Fergus		1			1	3	5
Flathead	5						5
Gallatin	1						1
Lake	1						1
Lewis and Clark	2						2
Madison	1						1
Mineral	1						1
Missoula	4						4
Musselshell						1	1

Ravalli	1						1
Rosebud	1						1
Sanders	2						2
Treasure	2						2
Valley	2					5	7
Yellowstone	2						2
TOTALS:	27	1	1	1	1	21	52

Physicians treating individuals for animal bites or scratches should evaluate each patient for possible exposure to rabies. If an exposure is suspected, state law requires reporting to the local county health authorities. Public health authorities can assist in determining the need for rabies prophylaxis and ensuring that other potential contacts are evaluated for prophylaxis. When determining the need for rabies prophylaxis, the following factors should be considered before treatment is initiated:

- the probability of an exposure (whether or not rabies virus could have been introduced into an open cut or wound in the skin or mucous membrane),
- the circumstances regarding the possible exposure (provoked vs. unprovoked attacks),
- the species of the animal involved in the incident, and
- whether or not the animal is available for observation or testing.

While domestic dogs, cats and ferrets can be quarantined for ten days and observed for evidence of rabies after a possible human exposure, it is recommended that other animals be laboratory tested for rabies. Since many rodents (such as squirrels, hamsters, guinea pigs, chipmunks, rats, and mice) and logomorphs (including rabbits and hares) are almost never found to be infected with rabies and have not been known to cause rabies among humans in the United States, these animals can generally be assumed to be free of rabies and require no testing. However, in any unusual instances, such as unprovoked attacks by any mammal, consultation with local health authorities is recommended.

Due to the continued presence of rabies, all mammals in Montana are potentially at risk of infection. While vaccination will minimize the risk of infection in many domesticated animals, no reliable control measures currently exist for other wild species. The high prevalence of rabies in some wild animals (skunks, foxes, raccoons, and bats) has resulted in laws prohibiting the possession of such animals as pets (50-23-102 MCA). In addition to this prohibition, other precautions intended to minimize one's risk of exposure can be taken. Such precautions include:

- Avoid Animals that are acting in an unusual manner.
- Unprovoked attacks by any carnivorous animal may indicate rabies. Report such attacks to your physician or health department.
- Do not adopt wildlife as pets; it is dangerous.. and often unlawful.
- Teach children to stay away from wild animals and unknown dogs and cats. Be sure they report any animal bites or scratches immediately.
- Obey animal control ordinances and leash laws.
- Be careful when assisting injured animals.. they are often in pain and likely to bite.
- Be aware that there is a safe vaccine for people exposed to rabies, but to be effective it must be administered soon after exposure.
- Follow your veterinarians recommendations to vaccinate your pets against rabies. Protecting our pets creates an effective barrier between wildlife rabies and people. Since homes are not impervious to the occasional wild animal, even pets which never leave the house should be vaccinated.

While rabies in humans is rare, pre-exposure rabies vaccination is available and recommended for veterinarians, animal control workers, and those who work with wildlife. Workers with frequent or continuous exposures should have boosters and/or a titer check every two years following initial vaccination; serology is preferred.

Rabies should be considered in any patient with a rapidly progressive encephalitis of unknown etiology, particularly in those who have had an exposure or other close contact with a recognized reservoir of the disease. Individuals infected with rabies who do not receive post-exposure prophylaxis generally experience a rapid onset of symptoms and death. No survivors have been reported since 1977.

Local and state health departments no longer stock rabies biologics. Physicians, pharmacists and pharmacies can acquire rabies biologics directly from the manufacturer on an immediate need basis, generally with next day service, by calling:

- Connaught Laboratories 1-800-VACCINE (822-2463) Vaccine & HRIG
- Bayer Pharmaceuticals 1-800-288-8370 HRIG Only
- SmithKline-Beecham 1-800-366-8900 Vaccine Only
- Chiron 1-888-CHIRON-7 Vaccine and HRIG

Examination of specimens for rabies virus is performed at the Department of Livestock's Veterinary Diagnostic Laboratory in Bozeman. While there is presently no charge for testing and no specimens are refused, specimens should be submitted only if the test result is of value (e.g., to confirm the presence of rabies in an area or a species with little or no rabies information available or to determine if treatment is necessary after an exposure).

Specimens may be submitted by anyone. However, the assistance of a veterinarian may be helpful in preparing the specimen for submission (all specimens must be dead and, unless the specimen is a bat, only the head shipped to the lab). To ensure each specimen arrives suitable for testing, specimens should be shipped on ice packs Monday through Thursday. Freezing the specimen is not recommended. A request for rabies testing and information

on whether or not a human exposure occurred should be included with the shipment.

Mailing Address:

MT Veterinary Diagnostic Laboratory
PO Box 997
Bozeman MT 59771

Street Address:

MT Veterinary Diagnostic Laboratory
Corner of S 19th & Lincoln
Bozeman MT 59715

Consultation on rabies prevention and control is available from the Epidemiology Office by calling 444-0273.